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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,509	09/16/2003	Norio Makiyama	242729US0CONT	1357
22850	7590	05/17/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BUTLER, PATRICK	
			ART UNIT	PAPER NUMBER
			1732	
DATE MAILED: 05/17/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,509

Applicant(s)

MAKIYAMA ET AL.

Examiner

Patrick Butler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15 and 17-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/880,116.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 March 2006 has been entered.

Response to Amendment

The Applicant's Amendments and Accompanying Remarks, filed 27 March 2006, have been entered and have been carefully considered. No claims are new, Claim 15 is amended, No Claims are canceled, and Claims 15 and 17-26 are pending.

Despite these advances, the invention as currently claimed is not found to be patentable for reasons herein below.

The Text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.

Claim Rejections - 35 USC § 103

Claims 15 and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owaki (5,226,955) in view of Ashida et al (5,503,899).

With regard to claim 15, Owaki teaches a method of producing a magnetic recording medium (abstract), which includes polishing/texturing the surface of the magnetic recording medium by abrasively contacting the surface with a suede type

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polishing pad (column 3, lines 51-60), but does not teach the specific characteristics of the pad. Ashida et al teach a suede-like sheet which is useful in making cloths (abstract). The cloth is composed of fiber bundles composed of fine fibers (A), having a fineness of 0.02-0.2 denier (0.022 dtex – 0.22 dtex) which extend through the entire sheet, which includes to a depth of 1/3 in the thickness direction from the napped surface of the sheet, and microfine fibers (B), having a fineness of not more than 1/5 the denier or 0.004-0.04 denier (0.004-0.04 dtex) of said fine fibers, an elastomeric polymer and has a fibrous nap on its surface (abstract). The elastomeric polymer is of high molecular weight and is impregnated into the nonwoven fabric and coagulated (column 6, lines 6-34) creating a porous state. The substrate has a napped surface on at least one of the sides of the sheet composed chiefly of the fine and microfine fibers (column 6, lines 52-57). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the suede pad taught by Ashida et al in the process taught by Owaki. The motivation to do so would have been to select a suede product useful for making cloths (Ashida et al, abstract) and one that would be resistant to pilling (Ashida et al, column 1, lines 1-4).

Ashida et al teach a fabric identical in composition to the fabric claimed in claim 15. Therefore, it is reasonable to presume that the wet elastic modulus of the high-molecular elastomer is 0.05 to 0.95 kg/mm² is inherent to Ashida et al. Support for said presumption is found in the use of like materials (i.e. a cloth composed of fiber bundles composed of fine fibers and microfine fibers, an elastomeric polymer impregnation and has a fibrous nap on its surface) that would result in the claimed property. The burden

is upon the applicant to prove otherwise *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of a wet elastic modulus of the high-molecular elastomer is 0.05 to 0.95 kg/mm² and would obviously have been present once the Ashida product is provided. In the present invention, one would have been motivated to have a wet elastic modulus as described to ensure a flexible cloth.

The polishing/texturing the surface of the magnetic recording medium by abrasively contacting the surface as previously described would necessarily form a desired pattern of groove-like fine unevenness with a mean surface roughness (Ra) of not more than 1 nm, principally because it contact the magnetic recording medium with the same nonwoven fabric as the claimed invention. Moreover, a roughness of less than 1 nm includes a surface with much less roughness, such as a polished smooth surface.

With regard to claim 17, Ashida et al teach that the high-molecular elastomer can be a polyurethane produced from at least one polymer diol having an average molecular weight of 500-3,000, at least one diisocyanate and at least one low molecular weight compound having at least two active hydrogen atoms such as ethylene glycol (column 6, lines 6-21). Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a cloth with the polyurethane composition having a mole ratio of polymer diol species and diisocyanate being 1/1.5 – 1/5, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215

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(CCPA 1980). In the present invention, one would have been motivated to have the mole ratio within the stated range to have an appropriately elastic polyurethane.

With regard to claims 18-20, Ashida et al teach that the fine fibers (A) and the microfine fibers (B) can both be made of polyamides such as 6-nylon and 66-nylon or polyesters (column 3, lines 7-16).

With regard to claim 21, Ashida et al teach that the microfine fibers (B) have a fineness of not more than 1/5 the denier of the fine fibers (A), or 0.004-0.04 denier (0.004-0.04 dtex) (abstract).

With regard to claim 22, Ashida et al teach in examples 1 and 2 that the thickness of the sheet is 1.2 mm (columns 7 and 9).

With regard to claim 23, Ashida et al teach a fabric identical in composition to the fabric claimed in claim 1, but do not state the desired density of the fabric. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a cloth with an apparent density within the range of 0.2 to 0.6 g/cm³, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to adjust the density to the claimed range in order to create a light-weight but substantial cloth.

With regard to claim 24, Ashida et al teach that the amount of the polyurethane composition in the fibrous substrate is within the range of 10 to 50% by weight (column 6, lines 29-32).

With regard to claim 25, Ashida et al teach that the ultrafine fibers (A) have a fineness of 0.02-0.2 denier (0.022 dtex – 0.22 dtex) and the ultrafine fibers (B) have a fineness of not more than 1/5 the denier, or 0.004-0.04 denier (0.0044-0.044 dtex) (abstract). It should be noted that the ranges for ultrafine fibers (A) and (B) have an overlapping range of 0.022-0.044 dtex. Therefore, in one embodiment, the ultrafine fibers (A) and (B) can have the same fineness.

With regard to claim 26, Ashida et al teach that the ultrafine fibers (A) have a fineness of 0.02-0.2 denier (0.022 dtex – 0.22 dtex) and the ultrafine fibers (B) have a fineness of not more than 1/5 the denier, or 0.004-0.04 denier (0.0044-0.044 dtex) (abstract). Therefore, in one embodiment, it is possible to have the ultrafine fibers (A) and (B) with a fineness range as claimed by the applicant.

Response to Arguments

Applicant's arguments filed 27 March 2006 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC 103 rejections. Applicant's arguments appear to be on the grounds that:

- 1) Polishing as taught by Owaki in view of Ashida is not texturing as illustrated by the attached pages.
- 2) Ashida is not alleged to be useful for use as a polishing pad.
- 3) Ashida does not teach the wet elastic modulus as claimed.
- 4) The present claims require ultrafine fibers (A) with fineness of not more than 0.1 dtex.

The Applicant's arguments are addressed as follows:

1) The polishing/texturing the surface of the magnetic recording medium by abrasively contacting the surface as previously described by Owaki in view of Ashida would necessarily form a desired pattern of groove-like fine unevenness with a mean surface roughness (Ra) of not more than 1 nm, principally because it contact the magnetic recording medium with the same nonwoven fabric as the claimed invention.

Moreover, a roughness of less than 1 nm includes a surface with much less roughness. Therefore, Claim 15 reads on a polished smooth surface, with much less than 1 nm roughness.

The attached pages to Applicant's Arguments filed 27 March 2006 titled "Nano-Surface Technology Solutions" have been reviewed. However, it is unclear what differences there are between the mirror surface and groove-like fine uneven surface. Moreover, the document's translations do not appear to be certified. Assuming that a mirror surface shown is smoother than the groove-like fine uneven surface, Claim 15 still reads on a polished smooth surface, with much less than 1 nm roughness.

2) Ashida is used to teach the construction of the pad and Owaki is used to teach polishing. Motivation to combine is to select a suede product useful for making cloths (Ashida et al, abstract) and one that would be resistant to pilling (Ashida et al, column 1, lines 1-4).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

3) The burden is upon the applicant to prove that a material having identical construction would have different properties. *In re Fitzgerald* 205 USPQ 594.

4) Ashida teaches The cloth is composed of fiber bundles composed of fine fibers (A), having a fineness of 0.02-0.2 denier (0.022 dtex – 0.22 dtex) (abstract), which means that the fibers with fineness 0.022-.01 dtex within that range are present, as required.


Conclusion

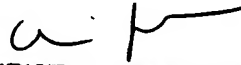
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.-Thu. 7:30 a.m. - 5 p.m. and alternating Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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PRIMARY EXAMINER
5/15/06